

A SPADIX IN THE AXIL OF THE SPATHE OF XANTHOSOMA.

In making preparations of the flowers of *Xanthosoma ? violaceum*, Schott, for the Singapore herbarium, an interesting abnormality was detected, for in a large spathe two spadixes were found, the position of the second being that of a branch in the axil of the spathe. The spathe in question was 17 inches long; the normally present spadix 12 inches long: but the abnormally produced spadix was only three inches, being too short to pass beyond the constriction of the spathe which had forced it into a curve. Its flowers were younger than those of the normally produced spadix, but apparently normal. On their lesser age rests an argument supporting the view that the abnormally produced spadix is a branch in the axil of the spathe; for if were not of a lower order than the normal spadix its flowers ought to be of the same age.

The abnormal specimen is part of No. 276 now in the Herbarium of the Botanic Gardens.

I. H. BURKILL.

GRAMMATOPHYLLUM FLOWERING IN JANUARY.

In the Agricultural Bulletin of the Straits and Federated Malay States, VI., 1907, page 49, Mr. H. N. Ridley recorded the flowering of *Grammatophyllum speciosum*, Blume, in the Botanic Gardens, in January of that year, the usual flowering in August and September having been omitted in 1906. The same phenomenon has been repeated; for this orchid did not flower in 1913, but flowered in Singapore very freely in January and February, 1914. It was seen to be in flower in the Kukob district of Johore at the same time. In Penang it flowered as usual in July and August, 1913.

I. H. B.

SOME PERTINENT PUBLICATIONS.

THE IMPERIAL BUREAU OF APPLIED ENTOMOLOGY. "In the summer of 1911, when the Prime Ministers of the Self-Governing Dominions were present in England, they were invited by the Secretary of State for the Colonies to discuss with the Entomological Research Committee (appointed by the Colonial Office, in 1909), certain proposal for furthering and co-ordinating the investigation of injurious insects throughout the Empire. By this meeting it was unanimously agreed that the establishment of a central organisation for this purpose was desirable, and consequently a tentative scheme was submitted for the consideration of the Colonial Governments concerned.

At a further conference, held at the Colonial Office, in August, 1912, the matter took more definite shape and it was proposed to form an Imperial Bureau of Entomology, to be supported by contributions from the various Dominions and Colonies, as well as from the British Government. The principal functions of this Bureau were to be to collect and co-ordinate all information bearing upon injurious or useful insects; to organise a system for securing the authoritative identification, with reasonable promptitude, of all insects of economic importance submitted by officials connected with the Departments of Agriculture or Public Health throughout the Empire; to compile gradually a comprehensive card-index to the whole literature of the subject, and to publish monthly the "Review of Applied Entomology," which is intended to give an up-to-date epitome of the current literature." (Preface to the Review, No. 1.)

There has been issued newly a report on the work of the Committee, dated 17th December, 1913, which records great progress towards permanent utility. The Review in two series: Series A, Agricultural, and Series B., Medical and Veterinary—has now appeared for more than a year, the parts of series A. costing ninepence each and the parts of series B. sixpence. The working value in distant centres of this Review is very considerable.

HAMEL SMITH, H., AND PAPE, F.A.G., COCONUTS, THE CONSOLS OF THE EAST. Second edition, London (1914). Tropical Life Publishing Depot., Pp. lxviii and 644 with many illustrations. Price 11 shillings net, post free.

The first 400 pages of the second edition of this work are almost exactly as those of the first edition, but the remaining part of the book is much altered,—slightly by omissions, greatly by additions. Of the added matter the most interesting pages are those where the opinions of several competent authorities are brought together in a discussion of the cost of making copra. This industry to date in various lands is discussed. Recent developments such as the use of explosives in agriculture find a place; Dr. Friederichs coconut-beetle fungus is described. But the part of the book dealing with insect pests should have been made fuller and have been well illustrated.

ZIMMERMANN, A., DER MANIHOT-KAUTSCHUK, SEINE KULTUR, GEWINNUNG UND PRAPARATION, Jena (Gustav Fischer), 1913, pp. 1-342, with 151 figures in the text. Price nine marks, unbound; ten marks, bound. This book gives a very complete account of the rubber-yielding species of Manihot. The author is Director of the Imperial Agricultural Institute of Amani, German East Africa, in which country their cultivation has been taken up more than in any other, and where he has been at work on them for at least ten years.

The figures in the book are originals from the author's photographs or from drawings made for him. The text covers the

whole matter of Ceara rubber--the differences between the species, their rates of growth in all parts of the world, their enemies (chiefly in German East Africa), their tapping, the coagulation of the latex and the return.

On page 154, the author gives his opinion cautiously to the effect that the nutritive rôle of latex cannot be considered as proved; on page 224 he advises that trees should not be tapped until their girth is 40 cm. (nearly 16 inches); on page 33 he shows that in favoured localities this girth is reached in a little over a year, but even 3-4 year old trees should not be tapped oftener than 25-40 times in the year, meagre yields having apparently in the past been due to tapping in excess (page 230); and (page 308) the yield which may be hoped for is:—

in the fourth year,	50 kilogrammes per hectaire or 44.6 lbs. per acre.
fifth " 100	" " 89.2 "
sixth " 150	" " 133.8 "
seventh " 200	" " 178.4 "
eighth " 200	" " 178.4 "

He records as actually obtained on the Kwamdoro estate, whose situation seems to be particularly favourable:—

Year.	Kilos per hectaire.	lbs. per acre.	Grammes per tree.	lbs. per tree.
4th	60	53.5	100	just under $\frac{1}{8}$ lb.
5th	120	107.6	200	$\frac{2}{10}$ lb.
6th	200	177.8	333	$\frac{7}{10}$ lb.
7th	220	196.1	367	just above $\frac{3}{4}$ lb.

The seed contains nearly 30 per cent. of oil.

KOORDERS, S. H., EXCURSIONSFLORA VON JAVA, UMFASSEND DIE BLUTENPFLANZEN, Jena, Gustav Fischer. Three volumes, pp. xxvi—412; 742; x-498; with figures in the text, 19 plates and 3 maps; 1911-1912. Vol. iv. to be complete in twenty parts, containing reproductions from photographs and line figures of the higher plants of Java, Part I, 1913.

This work when complete will be the best substitute for a popular Flora of the Malay peninsula that can be recommended, provided that the possessor can read German. Having but little knowledge of botany it will be possible to ascertain the name with considerable ease of any Javanese flowering plant, and of most of the commoner plants of the peninsula. An unfortunately rather long list of corrections has been issued.

MESSRS. C. L. GATIN AND C. M. BRET in a paper in the COMPTES-RENDUS DE L'ACADEMIE DES SCIENCES DE PARIS, clvi. pp. 805-807, point out that all the varieties of *Elaeis guineensis*—the African oil palm—produce on the Ivory Coast (West Africa) two kinds of fruits, the lesser being empty. They say that these lesser sterile deceptive shells are constant in proportion for each variety, being most numerous in var. *ceredia*, so that they appear to be normal to the trees.